

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P991181

Luminaire Tested: **GPC-SA2C-735-U-T4BC**

Issue Date: 07/03/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P991181  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 07/03/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: GPC-SA2C-735-U-T4BC  
Description: GALLEON PEDESTRAIAN COMPANION 1050mA 2xLight Square PACKAGE 70CRI  
3500K FIXTURE w/ TYPE IV ANGLED BACKLIGHT CONTROL  
Light Source: (28) 3500K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 10228.2 lumens  
Efficiency: N/A  
Efficacy: 107.8 lumens/watt  
Luminous Opening: Rectangular (W 1.33' x L: 0.67' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G2

Input Watts (W): 94.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

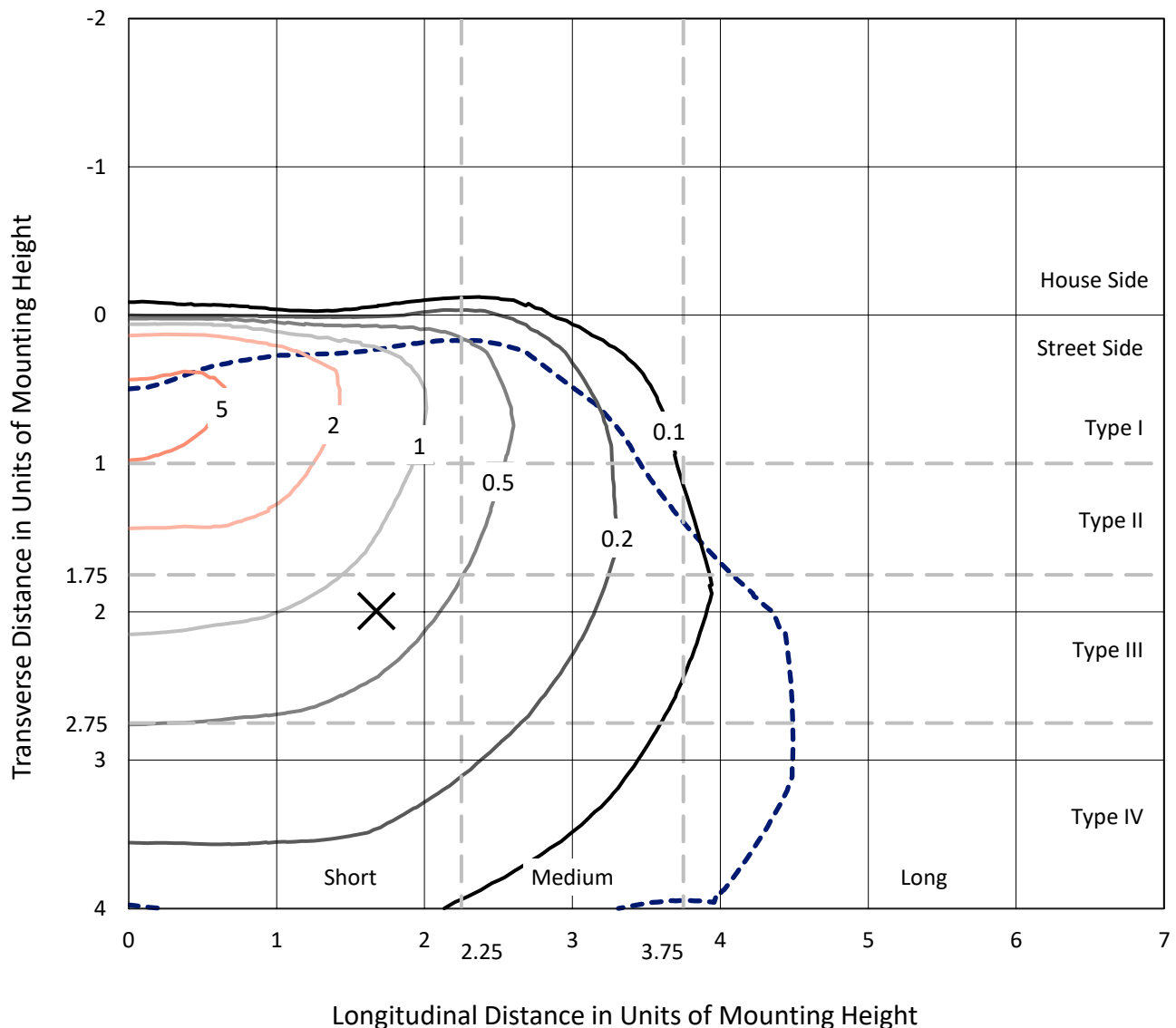


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## Iso-Footcandle Lines of Horizontal Illumination

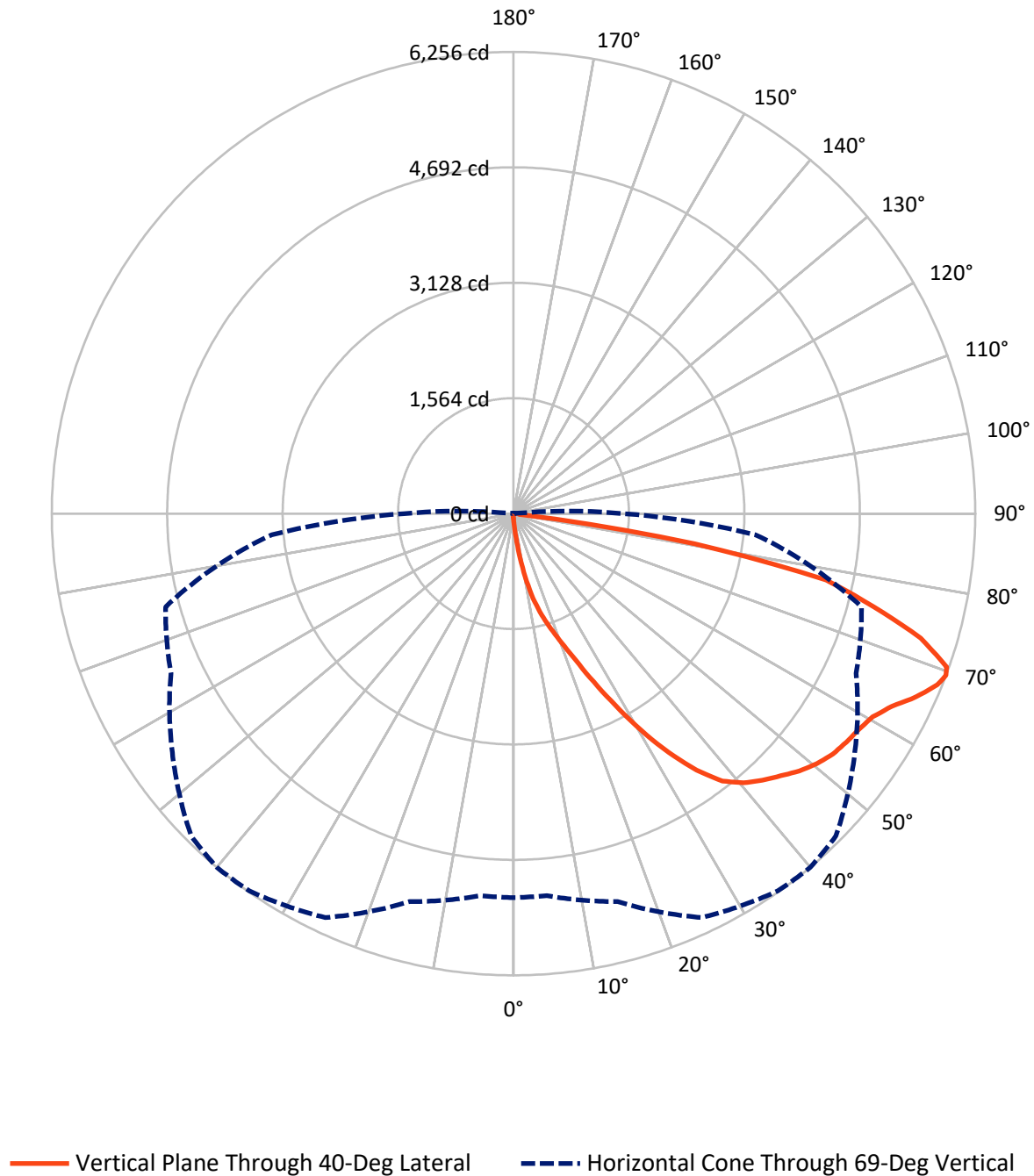
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.6 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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CATALOG NUMBER: GPC-SA2C-735-U-T4BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 44.8     | 0.0    | 44.8    |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 10183.4  | 0.0    | 10183.4 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 10228.2  | 0.0    | 10228.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 21.6    | 0.2       |
| 10°-20°   | 163.4   | 1.6       |
| 20°-30°   | 492.0   | 4.8       |
| 30°-40°   | 1083.3  | 10.6      |
| 40°-50°   | 1664.7  | 16.3      |
| 50°-60°   | 2049.9  | 20.0      |
| 60°-70°   | 2587.9  | 25.3      |
| 70°-80°   | 1990.6  | 19.5      |
| 80°-90°   | 174.9   | 1.7       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 10228.2 | 100.0     |
| 0°-180°   | 10228.2 | 100.0     |

**Coefficient of Utilization**



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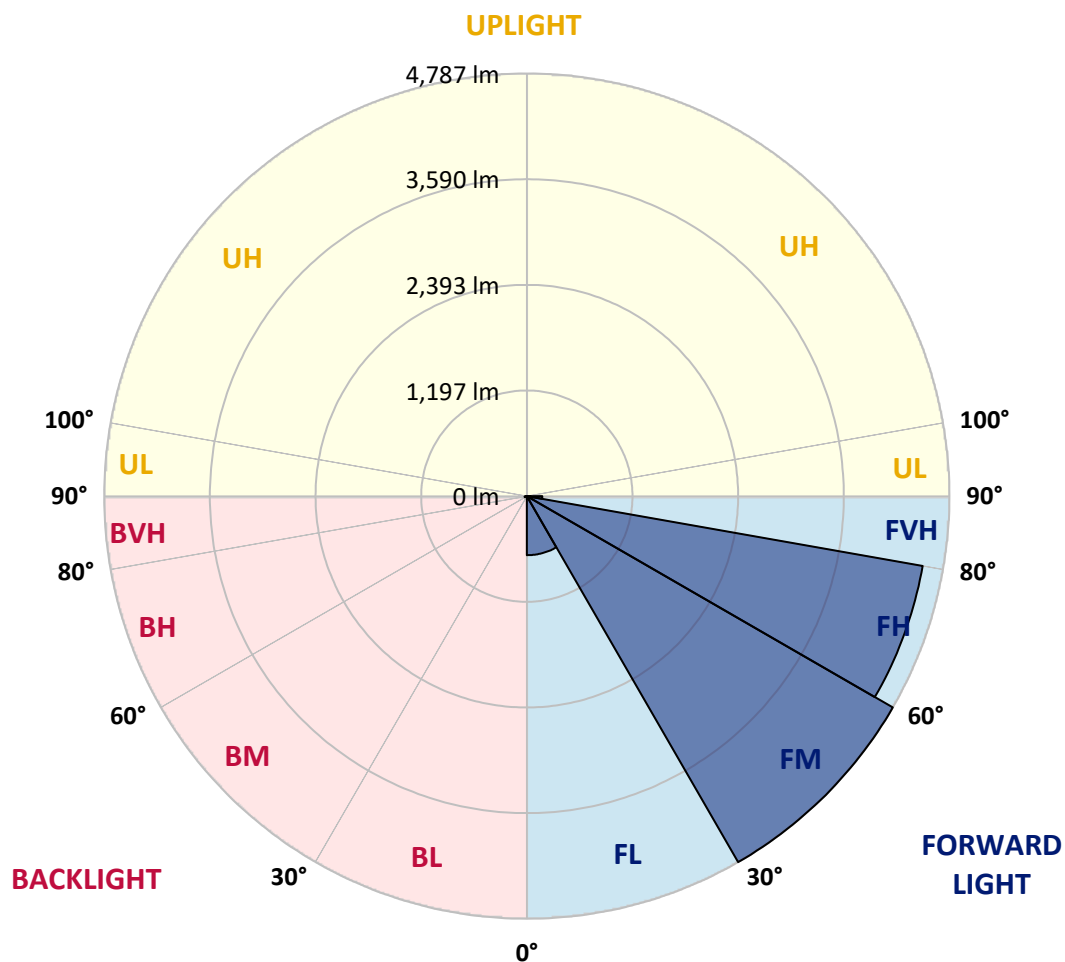
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 669.3  | 6.5       |                         |      |         |
| FM   | (30°-60°)   | 4786.9 | 46.8      |                         |      |         |
| FH   | (60°-80°)   | 4552.8 | 44.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 174.4  | 1.7       |                         |      | G2/225  |
| BL   | (0°-30°)    | 7.6    | 0.1       | B0/110                  |      |         |
| BM   | (30°-60°)   | 11.0   | 0.1       | B0/220                  |      |         |
| BH   | (60°-80°)   | 25.7   | 0.3       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 0.5    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B0-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 40°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   | 74.8   |
| 2.5°  | 166.9  | 165.0  | 157.3  | 147.7  | 140.1  | 134.3  | 126.6  | 115.1  | 103.6  | 90.2   | 80.6   |
| 5°    | 437.4  | 435.5  | 404.8  | 366.4  | 314.6  | 280.1  | 245.6  | 189.9  | 143.9  | 111.3  | 84.4   |
| 7.5°  | 809.6  | 803.9  | 775.1  | 715.6  | 606.2  | 546.8  | 483.5  | 339.6  | 220.6  | 138.1  | 90.2   |
| 10°   | 1178.0 | 1174.1 | 1137.7 | 1051.3 | 932.4  | 872.9  | 788.5  | 579.4  | 347.2  | 180.3  | 97.8   |
| 12.5° | 1394.8 | 1404.3 | 1377.5 | 1337.2 | 1235.5 | 1179.9 | 1084.0 | 842.2  | 533.3  | 247.5  | 107.4  |
| 15°   | 1573.2 | 1577.0 | 1552.1 | 1527.1 | 1471.5 | 1425.5 | 1344.9 | 1122.3 | 755.9  | 337.7  | 118.9  |
| 17.5° | 1793.8 | 1788.0 | 1761.2 | 1732.4 | 1671.0 | 1636.5 | 1584.7 | 1381.3 | 993.8  | 466.2  | 134.3  |
| 20°   | 2073.9 | 2058.6 | 2027.9 | 1978.0 | 1910.8 | 1868.6 | 1814.9 | 1646.1 | 1231.7 | 608.2  | 153.5  |
| 22.5° | 2432.7 | 2413.5 | 2380.9 | 2334.8 | 2215.9 | 2150.6 | 2081.6 | 1872.5 | 1494.5 | 788.5  | 178.4  |
| 25°   | 2847.1 | 2837.5 | 2802.9 | 2737.7 | 2611.1 | 2524.8 | 2413.5 | 2137.2 | 1755.4 | 980.4  | 209.1  |
| 27.5° | 3334.4 | 3317.1 | 3271.1 | 3194.3 | 3058.1 | 2944.9 | 2806.8 | 2428.8 | 2004.8 | 1183.7 | 247.5  |
| 30°   | 3879.2 | 3840.9 | 3746.8 | 3679.7 | 3520.5 | 3409.2 | 3248.0 | 2816.4 | 2261.9 | 1396.7 | 287.8  |
| 32.5° | 4385.7 | 4335.8 | 4199.6 | 4107.5 | 3959.8 | 3860.0 | 3712.3 | 3207.7 | 2551.6 | 1619.2 | 339.6  |
| 35°   | 4844.2 | 4790.5 | 4569.9 | 4429.8 | 4355.0 | 4270.6 | 4121.0 | 3654.8 | 2864.3 | 1857.1 | 399.0  |
| 37.5° | 5231.8 | 5178.1 | 4894.1 | 4673.5 | 4627.4 | 4598.7 | 4477.8 | 4032.7 | 3219.3 | 2125.7 | 468.1  |
| 40°   | 5448.6 | 5414.0 | 5168.5 | 4919.1 | 4830.8 | 4796.3 | 4708.0 | 4349.3 | 3614.5 | 2394.3 | 548.7  |
| 42.5° | 5515.7 | 5494.6 | 5295.1 | 5172.3 | 5011.1 | 4942.1 | 4836.6 | 4591.0 | 3954.0 | 2695.5 | 640.8  |
| 45°   | 5479.3 | 5456.2 | 5310.4 | 5339.2 | 5204.9 | 5070.6 | 4926.7 | 4756.0 | 4239.9 | 3050.4 | 755.9  |
| 47.5° | 5323.9 | 5316.2 | 5216.4 | 5379.5 | 5364.1 | 5210.7 | 5032.2 | 4865.3 | 4485.5 | 3393.8 | 899.8  |
| 50°   | 4944.0 | 4940.2 | 4986.2 | 5323.9 | 5469.7 | 5325.8 | 5147.4 | 4963.2 | 4681.2 | 3737.3 | 1084.0 |
| 52.5° | 4431.8 | 4458.6 | 4690.8 | 5220.3 | 5500.4 | 5415.9 | 5262.5 | 5074.5 | 4842.3 | 4080.7 | 1331.4 |
| 55°   | 4161.2 | 4184.3 | 4489.3 | 5107.1 | 5494.6 | 5469.7 | 5379.5 | 5181.9 | 4990.0 | 4362.7 | 1661.4 |
| 57.5° | 4366.5 | 4341.6 | 4481.6 | 5091.7 | 5469.7 | 5515.7 | 5463.9 | 5266.3 | 5124.3 | 4612.1 | 2118.0 |
| 60°   | 4756.0 | 4748.3 | 4765.6 | 5201.1 | 5521.5 | 5590.5 | 5554.1 | 5323.9 | 5256.7 | 4802.0 | 2620.7 |
| 62.5° | 5149.3 | 5128.2 | 5145.4 | 5502.3 | 5701.8 | 5749.8 | 5705.6 | 5417.9 | 5360.3 | 4940.2 | 3165.5 |
| 65°   | 5345.0 | 5329.6 | 5410.2 | 5805.4 | 5958.9 | 5991.5 | 5933.9 | 5569.4 | 5377.6 | 5011.1 | 3509.0 |
| 67.5° | 5320.0 | 5316.2 | 5504.2 | 6018.4 | 6173.8 | 6192.9 | 6145.0 | 5721.0 | 5304.7 | 5009.2 | 3545.4 |
| 69°   | 5203.0 | 5195.3 | 5442.8 | 6039.5 | 6242.8 | 6256.3 | 6177.6 | 5644.2 | 5120.5 | 4880.7 | 3286.4 |
| 70°   | 5064.9 | 5072.5 | 5352.6 | 6001.1 | 6244.7 | 6225.6 | 6043.3 | 5534.9 | 4980.4 | 4733.0 | 2956.4 |
| 72.5° | 4550.7 | 4598.7 | 4982.4 | 5749.8 | 5981.9 | 5767.0 | 5529.1 | 5176.1 | 4713.8 | 4034.6 | 2064.3 |
| 75°   | 3806.3 | 3873.5 | 4368.4 | 5227.9 | 5143.5 | 5036.1 | 5007.3 | 4738.7 | 4270.6 | 2680.2 | 1467.7 |
| 77.5° | 1861.0 | 2083.5 | 3100.3 | 4015.4 | 4220.7 | 4330.1 | 4289.8 | 3917.6 | 3432.2 | 1316.1 | 957.3  |
| 80°   | 97.8   | 101.7  | 163.1  | 383.7  | 1955.0 | 2486.4 | 3058.1 | 2991.0 | 2597.7 | 600.5  | 504.6  |
| 82.5° | 51.8   | 51.8   | 57.6   | 67.1   | 78.7   | 94.0   | 249.4  | 1713.2 | 1544.4 | 308.9  | 188.0  |
| 85°   | 28.8   | 28.8   | 34.5   | 46.0   | 59.5   | 69.1   | 78.7   | 103.6  | 331.9  | 111.3  | 30.7   |
| 87.5° | 13.4   | 17.3   | 23.0   | 32.6   | 42.2   | 53.7   | 61.4   | 76.7   | 97.8   | 94.0   | 5.8    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

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CATALOG NUMBER: GPC-SA2C-735-U-T4BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°  | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|------|------|------|------|------|------|------|------|------|------|
| 0°    | 74.8   | 74.8 | 74.8 | 74.8 | 74.8 | 74.8 | 74.8 | 74.8 | 74.8 | 74.8 | 74.8 |
| 2.5°  | 74.8   | 71.0 | 65.2 | 61.4 | 59.5 | 55.6 | 51.8 | 49.9 | 48.0 | 46.0 | 48.0 |
| 5°    | 74.8   | 69.1 | 59.5 | 53.7 | 49.9 | 44.1 | 40.3 | 38.4 | 36.5 | 34.5 | 34.5 |
| 7.5°  | 74.8   | 65.2 | 53.7 | 46.0 | 40.3 | 36.5 | 30.7 | 28.8 | 26.9 | 24.9 | 24.9 |
| 10°   | 76.7   | 61.4 | 48.0 | 40.3 | 34.5 | 28.8 | 24.9 | 21.1 | 19.2 | 19.2 | 19.2 |
| 12.5° | 76.7   | 57.6 | 42.2 | 34.5 | 28.8 | 23.0 | 17.3 | 13.4 | 11.5 | 11.5 | 11.5 |
| 15°   | 76.7   | 53.7 | 38.4 | 28.8 | 23.0 | 17.3 | 9.6  | 5.8  | 3.8  | 3.8  | 1.9  |
| 17.5° | 78.7   | 51.8 | 34.5 | 24.9 | 17.3 | 9.6  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  |
| 20°   | 82.5   | 49.9 | 30.7 | 21.1 | 11.5 | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 22.5° | 86.3   | 48.0 | 26.9 | 15.3 | 5.8  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 25°   | 94.0   | 48.0 | 24.9 | 13.4 | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 27.5° | 101.7  | 48.0 | 19.2 | 7.7  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 30°   | 107.4  | 48.0 | 17.3 | 5.8  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 32.5° | 115.1  | 48.0 | 15.3 | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 35°   | 120.9  | 46.0 | 11.5 | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 37.5° | 126.6  | 44.1 | 9.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 40°   | 134.3  | 42.2 | 7.7  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 42.5° | 142.0  | 38.4 | 5.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 45°   | 151.6  | 36.5 | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 47.5° | 165.0  | 34.5 | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 50°   | 184.2  | 34.5 | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 52.5° | 216.8  | 34.5 | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 55°   | 270.5  | 34.5 | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 57.5° | 364.5  | 34.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 60°   | 548.7  | 34.5 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 62.5° | 848.0  | 38.4 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 65°   | 1296.9 | 46.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 67.5° | 1644.2 | 55.6 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 69°   | 1484.9 | 51.8 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 70°   | 1258.5 | 40.3 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 72.5° | 700.3  | 21.1 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 75°   | 364.5  | 9.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 77.5° | 155.4  | 5.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 80°   | 46.0   | 3.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 82.5° | 15.3   | 3.8  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 85°   | 5.8    | 3.8  | 1.9  | 1.9  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 87.5° | 3.8    | 1.9  | 1.9  | 1.9  | 1.9  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 90°   | 0.0    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-735-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 3500K CCT 26 LEDS

### Spectral Parameters

CCT (K): 3369  
 CIE  $u'$ : 0.2386  
 CIE  $v'$ : 0.5156  
 Duv: 0.0013  
 CIE x: 0.4143  
 CIE y: 0.3980  
 CIE z: 0.1877  
 Peak Wavelength (nm): 590  
 Dominant Wavelength (nm): 580  
 Purity: 43.80166  
 R<sub>f</sub>: 71.4  
 R<sub>g</sub>: 96

CRI (Ra): 70.1  
 R1: 66.6  
 R2: 77.6  
 R3: 88.5  
 R4: 69.5  
 R5: 66.4  
 R6: 69.6  
 R7: 77.5  
 R8: 44.9  
 R9: -40.2  
 R10: 49.1  
 R11: 66.3  
 R12: 45.7  
 R13: 68.0  
 R14: 93.4  
 R15: 57.6



### Test Conditions

Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-5

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |



REPORT NUMBER: SP1-2407-184-5

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>λ</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 119                      | NR            | 620    | 778                      | NR            | 750    | 19                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 173                      | NR            | 625    | 711                      | NR            | 755    | 16                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 239                      | NR            | 630    | 648                      | NR            | 760    | 14                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 313                      | NR            | 635    | 582                      | NR            | 765    | 12                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 383                      | NR            | 640    | 520                      | NR            | 770    | 11                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 448                      | NR            | 645    | 460                      | NR            | 775    | 9                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 500                      | NR            | 650    | 406                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 539                      | NR            | 655    | 355                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 575                      | NR            | 660    | 309                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 606                      | NR            | 665    | 269                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 22                       | NR            | 540    | 633                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 45                       | NR            | 545    | 666                      | NR            | 675    | 199                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 96                       | NR            | 550    | 701                      | NR            | 680    | 171                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 193                      | NR            | 555    | 743                      | NR            | 685    | 147                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 341                      | NR            | 560    | 788                      | NR            | 690    | 126                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 547                      | NR            | 565    | 837                      | NR            | 695    | 107                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 799                      | NR            | 570    | 887                      | NR            | 700    | 92                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 831                      | NR            | 575    | 931                      | NR            | 705    | 78                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 461                      | NR            | 580    | 967                      | NR            | 710    | 67                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 256                      | NR            | 585    | 990                      | NR            | 715    | 57                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 176                      | NR            | 590    | 1000                     | NR            | 720    | 49                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 994                      | NR            | 725    | 42                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 74                       | NR            | 600    | 973                      | NR            | 730    | 36                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 67                       | NR            | 605    | 938                      | NR            | 735    | 31                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 68                       | NR            | 610    | 892                      | NR            | 740    | 26                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 84                       | NR            | 615    | 838                      | NR            | 745    | 22                       | NR            | 875    | 1                        | NR            |        |                          |               |

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.29

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 119                         | NR               | 620       | 778                         | NR               | 750       | 19                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 173                         | NR               | 625       | 711                         | NR               | 755       | 16                          | NR               | 885       | 0                           | NR               |
| 370       | 0                           | NR               | 500       | 239                         | NR               | 630       | 648                         | NR               | 760       | 14                          | NR               | 890       | 0                           | NR               |
| 375       | 0                           | NR               | 505       | 313                         | NR               | 635       | 582                         | NR               | 765       | 12                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 383                         | NR               | 640       | 520                         | NR               | 770       | 11                          | NR               | 900       | 0                           | NR               |
| 385       | 0                           | NR               | 515       | 448                         | NR               | 645       | 460                         | NR               | 775       | 9                           | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 500                         | NR               | 650       | 406                         | NR               | 780       | 8                           | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 539                         | NR               | 655       | 355                         | NR               | 785       | 7                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 575                         | NR               | 660       | 309                         | NR               | 790       | 6                           | NR               | 920       | 0                           | NR               |
| 405       | 11                          | NR               | 535       | 606                         | NR               | 665       | 269                         | NR               | 795       | 5                           | NR               | 925       | 0                           | NR               |
| 410       | 22                          | NR               | 540       | 633                         | NR               | 670       | 231                         | NR               | 800       | 4                           | NR               | 930       | 0                           | NR               |
| 415       | 45                          | NR               | 545       | 666                         | NR               | 675       | 199                         | NR               | 805       | 4                           | NR               | 935       | 0                           | NR               |
| 420       | 96                          | NR               | 550       | 701                         | NR               | 680       | 171                         | NR               | 810       | 3                           | NR               | 940       | 0                           | NR               |
| 425       | 193                         | NR               | 555       | 743                         | NR               | 685       | 147                         | NR               | 815       | 3                           | NR               | 945       | 0                           | NR               |
| 430       | 341                         | NR               | 560       | 788                         | NR               | 690       | 126                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 547                         | NR               | 565       | 837                         | NR               | 695       | 107                         | NR               | 825       | 2                           | NR               | 955       | 0                           | NR               |
| 440       | 799                         | NR               | 570       | 887                         | NR               | 700       | 92                          | NR               | 830       | 2                           | NR               | 960       | 0                           | NR               |
| 445       | 831                         | NR               | 575       | 931                         | NR               | 705       | 78                          | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 461                         | NR               | 580       | 967                         | NR               | 710       | 67                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 256                         | NR               | 585       | 990                         | NR               | 715       | 57                          | NR               | 845       | 1                           | NR               | 975       | 0                           | NR               |
| 460       | 176                         | NR               | 590       | 1000                        | NR               | 720       | 49                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 107                         | NR               | 595       | 994                         | NR               | 725       | 42                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 74                          | NR               | 600       | 973                         | NR               | 730       | 36                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 67                          | NR               | 605       | 938                         | NR               | 735       | 31                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 68                          | NR               | 610       | 892                         | NR               | 740       | 26                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 84                          | NR               | 615       | 838                         | NR               | 745       | 22                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.36**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 119                                  | NR                             | 620               | 778                                  | NR                             | 750               | 19                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 173                                  | NR                             | 625               | 711                                  | NR                             | 755               | 16                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 239                                  | NR                             | 630               | 648                                  | NR                             | 760               | 14                                   | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 313                                  | NR                             | 635               | 582                                  | NR                             | 765               | 12                                   | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 383                                  | NR                             | 640               | 520                                  | NR                             | 770               | 11                                   | NR                             | 900               | 0                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 448                                  | NR                             | 645               | 460                                  | NR                             | 775               | 9                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 2                                    | NR                             | 520               | 500                                  | NR                             | 650               | 406                                  | NR                             | 780               | 8                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 4                                    | NR                             | 525               | 539                                  | NR                             | 655               | 355                                  | NR                             | 785               | 7                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 6                                    | NR                             | 530               | 575                                  | NR                             | 660               | 309                                  | NR                             | 790               | 6                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 11                                   | NR                             | 535               | 606                                  | NR                             | 665               | 269                                  | NR                             | 795               | 5                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 22                                   | NR                             | 540               | 633                                  | NR                             | 670               | 231                                  | NR                             | 800               | 4                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 45                                   | NR                             | 545               | 666                                  | NR                             | 675               | 199                                  | NR                             | 805               | 4                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 96                                   | NR                             | 550               | 701                                  | NR                             | 680               | 171                                  | NR                             | 810               | 3                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 193                                  | NR                             | 555               | 743                                  | NR                             | 685               | 147                                  | NR                             | 815               | 3                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 341                                  | NR                             | 560               | 788                                  | NR                             | 690               | 126                                  | NR                             | 820               | 3                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 547                                  | NR                             | 565               | 837                                  | NR                             | 695               | 107                                  | NR                             | 825               | 2                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 799                                  | NR                             | 570               | 887                                  | NR                             | 700               | 92                                   | NR                             | 830               | 2                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 831                                  | NR                             | 575               | 931                                  | NR                             | 705               | 78                                   | NR                             | 835               | 2                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 461                                  | NR                             | 580               | 967                                  | NR                             | 710               | 67                                   | NR                             | 840               | 2                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 256                                  | NR                             | 585               | 990                                  | NR                             | 715               | 57                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 176                                  | NR                             | 590               | 1000                                 | NR                             | 720               | 49                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 107                                  | NR                             | 595               | 994                                  | NR                             | 725               | 42                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 74                                   | NR                             | 600               | 973                                  | NR                             | 730               | 36                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 67                                   | NR                             | 605               | 938                                  | NR                             | 735               | 31                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 68                                   | NR                             | 610               | 892                                  | NR                             | 740               | 26                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 84                                   | NR                             | 615               | 838                                  | NR                             | 745               | 22                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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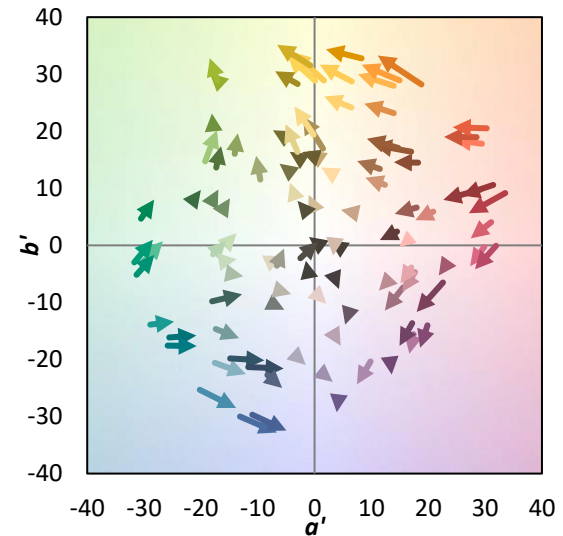
TM-30-18

### Summary

$R_f = 71.4$   
 $R_g = 96$   
 CIE  $R_a = 70.1$   
 $R_g = -40.2$



### Color Vector Graphics



**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 |            |



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**TM-30-18**
**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)